

Claims

[c1] 1. A coaxial connector for use with a coaxial cable having an inner conductor, an outer conductor and a sheath, comprising:

a rear clamp nut having a bore with a first inner diameter at a cable end and a smaller second inner diameter at a connector end; the first inner diameter dimensioned to accept the cable with the sheath and the second inner diameter dimensioned to accept the cable without the sheath;

a helical step between the first inner diameter and the second inner diameter extends around the bore between the cable end and the connector end of a slot with a cutting edge; the cutting edge at the second inner diameter operating to cut and separate the sheath from the outer conductor as the cable is inserted into the bore and rotated; and

a connector body adapted to connect to the rear clamp nut at the connector end.

[c2] 2. The connector of claim 1, wherein the connector body and the rear clamp nut are connected via threads.

[c3] 3. The connector of claim 2, wherein the threads are a

plurality of interleaved concentric threads.

- [c4] 4. The connector of claim 3, wherein there are one of two, three and four interleaved concentric threads.
- [c5] 5. The connector of claim 1, further including a first ring and a second ring positioned coaxially within a groove formed in an internal bore of the connector body; and an inner coupling sleeve rotatably positioned within the internal bore;
the first ring and the second ring each having a plurality of complementary protrusions;
the first ring coupled to the connector body and the second ring coupled to the inner coupling sleeve;
the complementary protrusions of the first ring and the second ring interact whereby the connector body is coupled to the inner coupling sleeve during rotation of the connector body via application of a torque below a threshold level;
at least one of the complementary protrusions deforming upon application of the torque at or above the threshold level to decouple the connector body from the inner coupling sleeve.
- [c6] 6. The connector of claim 5, wherein the coupling between the first ring and the connector body is via an internally projecting first tab in the groove which keys with

a corresponding first ring slot in the first ring.

- [c7] 7. The connector of claim 5, wherein the coupling between the second ring and the inner coupling sleeve is via an inward projecting second ring tab which keys with a corresponding inner coupling sleeve slot in the inner coupling sleeve.
- [c8] 8. The connector of claim 5, wherein the plurality of complementary protrusions on the first ring is a plurality of fingers projecting inwards.
- [c9] 9. The connector of claim 5, wherein the plurality of complementary protrusions on the second ring is a plurality of ramps projecting outwards.
- [c10] 10. A coaxial connector, comprising:
 - a first ring and a second ring positioned coaxially within a groove formed in an internal bore of a connector body; and an inner coupling sleeve rotatably positioned within the internal bore;
 - the first ring and the second ring each having a plurality of complementary protrusions;
 - the first ring coupled to the connector body and the second ring coupled to the inner coupling sleeve;
 - the complementary protrusions of the first ring and the second ring interact whereby the connector body is cou-

pled to the inner coupling sleeve during rotation of the connector body via application of a torque below a threshold level;
at least one of the complementary protrusions deforming upon application of the torque at or above the threshold level to decouple the connector body from the inner coupling sleeve.

[c11] 11. The connector of claim 10, wherein the coupling between the first ring and the connector body is via an internally projecting first tab in the groove which keys with a corresponding first ring slot in the first ring.

[c12] 12. The connector of claim 10, wherein the coupling between the second ring and the inner coupling sleeve is via an inward projecting second ring tab which keys with a corresponding inner coupling sleeve slot in the inner coupling sleeve.

[c13] 13. The connector of claim 10, wherein the plurality of complementary protrusions on the first ring is a plurality of fingers projecting inwards.

[c14] 14. The connector of claim 10, wherein the plurality of complementary protrusions on the second ring is a plurality of ramps projecting outwards.

[c15] 15. The connector of claim 10, further including a rear

clamp nut having a rear clamp nut bore with a first inner diameter at a cable end and a smaller second inner diameter at a connector end; the first inner diameter dimensioned to fit onto a coaxial cable with a sheath and the second inner diameter dimensioned to fit onto the cable without the sheath;

a helical step between the first inner diameter and the second inner diameter extends around the bore between the cable end and the connector end of a slot with a cutting edge; the cutting edge at the second inner diameter operating to cut and separate the sheath from the outer conductor as the cable is inserted into the bore and rotated; and

the connector body adapted to connect to the rear clamp nut at the connector end.

- [c16] 16. The connector of claim 15, wherein the connector body and the rear clamp nut are connected via threads.
- [c17] 17. The connector of claim 16, wherein the threads are a plurality of interleaved concentric threads.
- [c18] 18. The connector of claim 17, wherein there are one of two, three and four interleaved concentric threads.
- [c19] 19. A coaxial connector, comprising:
 - a connector body connected to a rear clamp nut;

The connector of claim 1, wherein the connector body and the rear clamp nut are connected via a plurality of interleaved concentric threads.

- [c20] 20. The connector of claim 19, wherein there are one of two, three and four interleaved concentric threads.
- [c21] 21. The connector of claim 19, wherein the rear clamp nut has a rear clamp nut bore with a first inner diameter at a cable end and a smaller second inner diameter at a connector end; the first inner diameter dimensioned to fit onto a coaxial cable with the sheath and the second inner diameter dimensioned to fit onto the coaxial cable without the sheath;
a helical step between the first inner diameter and the second inner diameter extends around the bore between the cable end and the connector end of a slot with a cutting edge; the cutting edge at the second inner diameter operating to cut and separate the sheath from the outer conductor as the cable is inserted into the rear clamp nut bore and rotated.
- [c22] 22. The connector of claim 19, further including a first ring and a second ring positioned coaxially within a groove formed in an internal bore of the connector body; and an inner coupling sleeve rotatably positioned within the internal bore;

the first ring and the second ring each having a plurality of complementary protrusions;
the first ring coupled to the connector body and the second ring coupled to the inner coupling sleeve;
the complementary protrusions of the first ring and the second ring interact whereby the connector body is coupled to the inner coupling sleeve during rotation of the connector body via application of a torque below a threshold level;
at least one of the complementary protrusions deforming upon application of the torque at or above the threshold level to decouple the connector body from the inner coupling sleeve.

- [c23] 23. The connector of claim 22, wherein the coupling between the first ring and the connector body is via an internally projecting first tab in the groove which keys with a corresponding first ring slot in the first ring.
- [c24] 24. The connector of claim 22, wherein the coupling between the second ring and the inner coupling sleeve is via an inward projecting second ring tab which keys with a corresponding inner coupling sleeve slot in the inner coupling sleeve.
- [c25] 25. The connector of claim 22, wherein the plurality of complementary protrusions on the first ring is a plurality

of fingers projecting inwards.

[c26] 26. The connector of claim 22, wherein the plurality of complementary protrusions on the second ring is a plurality of ramps projecting outwards.